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3440 SOUTH STATE STREET

November 12, 1957

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Dear Andy:

Enclosed please find two copies of Progress Report No. 39 on Project No. A-077 covering the month of October, 1957.

As yet we do not have a record of the costs incurred during October. Therefore, this information will be given you in our next letter.

Sincerely yours,

Assistant Manager

*Rec'd ED  
11/20/57  
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2 encls.  
RWB/es

Progress Report No. 39

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## I. INTRODUCTION

This report covers work done on Project No. A-077 during October, 1957. Investigation of reduction of blast by muzzle attachments was continued, high speed motion pictures were taken of emerging gas, and data were assembled for the design

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## II. PROJECT WORK

Sound pressure data were obtained for a wide range of muzzle attachment parameters. No significant correlation was found between flow resistance and blast reduction, possibly due to the great difference in pressures involved. Better correlation may be obtained for self-noise when the blast is reduced by other means. This will be investigated when our new facilities are completed.

Results of tests of various muzzle attachments indicate that

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Comparisons of velocity, blast pressure, and wave shape were made between

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High speed motion pictures were made of hot gases and bullets emerging

. Measurements on successive frames verified the timing of events, as previously determined from oscillographic pictures.

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Preliminary sketches have been made for the design of a silenced 45 cal. rifle.

### III. FUTURE WORK

A few more high speed motion pictures will be made with modified lighting arrangements in an effort to resolve the uncertainty in distinguishing between blast and outlet noise. Tests will be made on No. 16A with barrel holes partly closed to determine the minimum number of holes and the most effective disposition of holes for the new design. The effect of eccentricity of the cylinder will also be investigated.

### IV. NOTEBOOKS

Data for this report are contained in  Notebook No. C-7229.

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### V. CONTRIBUTING PERSONNEL

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